

AMENDMENTS TO THE CLAIMS

(IN FORMAT COMPLIANT WITH THE REVISED 37 CFR 1.121)

1. (ORIGINAL) A method of making a stamper or stamper ancestor for fabricating an optical disk comprising:

forming a substrate having a corrugated upper surface profile;

5 depositing a layer of material onto said upper surface so as to form a combined substrate and layer structure having an upper surface profile comprising an adjacent series of structures having a substantially hemi-cylindrical contour.

2. (ORIGINAL) The method of claim 1, wherein said forming comprises grooving a substrate with a spiral groove.

3. (ORIGINAL) The method of claim 1, wherein said forming comprises depositing, exposing, and developing a photoresist.

4. (ORIGINAL) The method of claim 1, wherein said forming comprises etching through an exposed and developed photoresist layer.

5. (ORIGINAL) The method of claim 1, wherein said forming comprises forming a substrate having an approximately sinusoidal upper surface profile.

6. (ORIGINAL) The method of claim 1, wherein said forming comprises forming a substrate having an approximately rectangular upper surface profile.

7. (ORIGINAL) The method of claim 1, additionally comprising: depositing metal onto said combined substrate and layer structure; removing said metal to form an inverted replica.

8. (CANCELED).

9. (ORIGINAL) A method of making an optical data storage media, said method comprising:

forming a substrate having a corrugated upper surface;

depositing at least one layer of optically active

5 material over said substrate;

depositing a layer of material onto said optically active material so as to form lenses over said optically active material having a substantially hemi-cylindrical contour.

10. (ORIGINAL) The method of claim 9, wherein said depositing at least one layer of optically active material comprises depositing a phase change stack.

11. ORIGINAL) The method of claim 9, additionally comprising bonding a substantially transparent cover sheet onto said lenses.

12. (ORIGINAL) The method of claim 11, wherein said cover sheet comprises polycarbonate.

13-18. (CANCELED).

19. (ORIGINAL) A method of making an optical data storage medium comprising:

forming one or more convex substantially hemicylindrical structures with a deposition process characterized by substantially uniform growth on a template substrate;

serially replicating said structures to form a stamper having one or more convex substantially hemicylindrical structures;

molding a plastic blank using said stamper as part of a mold assembly to form a plastic substrate having one or more concave grooves with a substantially hemicylindrical contour; and

filling said grooves with a dielectric material so as to form convex lenses when viewed from the surface of the plastic blank opposite from the grooved side.

20. (ORIGINAL) The method of claim 19, wherein said plastic blank comprises polycarbonate.

21-23. (CANCELED).

Please add the following new claims:

24. (NEW) The method of claim 1, wherein depositing said layer of material comprises vacuum deposition.

25. (NEW) The method of claim 1, wherein depositing said layer of material comprises sputter coating said material onto said upper surface under vacuum conditions.

26. (NEW) The method of claim 1, wherein depositing said layer of material comprises a process characterized by substantially uniform growth.

27. (NEW) The method of claim 1, further comprising:  
depositing a separation layer by accumulating inorganic  
material onto said upper surface.

28. (NEW) The method of claim 27, wherein said inorganic  
material is accumulating by a process selected from the group  
consisting of sputtering, electroplating, and other deposition  
technology.

29. (NEW) The method of claim 1, wherein said corrugated  
upper surface profile comprises a profile selected from the group  
consisting of (i) alternating convex and concave structures,  
grooves having an approximately sinusoidal cross section, (iii)  
5 grooves having a rectangular cross section, (iv) grooves having a  
trapezoidal cross section and (v) grooves having a flat sided  
geometric shape.

30. (NEW) The method of claim 1, wherein forming said  
substrate having a corrugated upper surface profile comprises the  
steps of:

forming a pattern of photo-sensitive synthetic resin on  
5 said substrate using one or more lithographic techniques;

etching said substrate to remove substrate material from between elements of said pattern of photo-sensitive synthetic resin; and

removing said pattern of photo-sensitive synthetic resin.

31. (NEW) The method of claim 9, wherein said layer of material deposited onto said optically active material comprises a material selected from the group consisting of gallium phosphide (GaP), gallium arsenide (GaAs), indium phosphide (InP),  
5 indium arsenide (InAs), germanium and indium antimonide (InSb).